Background: In high-risk subjects low-dose sCT initially showed a 4-fold increase in the detection rate of neoplastic nodules in comparison with chest-X-ray. However, two recent papers (I-ELCAP Investigators NEJM 2006; 355:1763-1771 and Bach PB et al. JAMA 2007; 297:953-961) led to controversial results about the efficacy of sCT in improving overall survival of lung cancer and in addition no information about mortality reduction are still available from any randomized trial. Subjects and Methods: From April to December 2001, 520 asymptomatic volunteers aged ≥ 55 years with a history of cigarette smoking ≥ 20 packs-year and of no previous cancer received annually chest sCT for 5 consecutive years.

Results: At baseline 73% were male, median age was 59 years and 91% current smokers. At baseline sCT 127 subjects (24.5%) had nodules ≤5 mm while nodules ≥5 mm were detected in 114 (22%); the size of lung nodules ranged from 5 to 9.9 mm in 81.5% of the cases. The % of nodules worth of additional investigation varied over time (2nd yr: 6%; 3rd yr: 5%; 4th yr: 11%; 5th yr: 11%). Five (1%) cases of LC were detected during the first year (3 stage I) and in two additional resections an atypical adenomatous hyperplasia was found. Three new cases of thoracic cancers were detected in the second and third year. In the fourth year, five lung cancer (one unresectable stage IIIb) and a thymic carcinoma were detected. In the fifth year 4 new cases (2 surgically resected) and a renal cancer were diagnosed. One interval case was detected during the third year. Following the end of the study two new cancers were detected (both negative for nodules at the last screening sCT), one resected (squamous carcinoma, stage IA, asymptomatic) and a symptomatic limited disease small cell lung cancer. For these 2 cases the interval between the last screening sCT and the diagnosis is 16 and 16.8 months, respectively. Drop-out rate in the first year was 25 (2nd yr 22, 3rd yr 18 and 4th yr 24). During the 5-year screening period 31.5% of subjects quit smoking but, of these, 8% started again to smoke during the course of the study. As March 2006, 17 out of 25 diagnosed cancer are still alive, with only one case (stage IIIa) with progression of disease. The median survival time for surgically resected cases who already died (n=6, including two cases in pathological stage I) is 25 months, and 1.6 months for the case of thymic carcinoma (4 deaths were cancer related).

Conclusion: Our study confirmed the potential of sCT in the early detection of lung cancer. Evidence from ongoing randomised trials is needed to support the routine use of sCT for early detection of LC. A program of smoking cessation is strongly recommended for further studies. Currently a conservative attitude should be encouraged.

PD1-1-5 Epidemiology and Prevention & Early Detection, Mon, 16:00 - 17:30

Five-years results of a non-randomised study evaluating spiral computed tomography (sCT) for early detection of lung cancer (LC)

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Identification of polymorphisms in the survivin gene and their association with lung cancer risk

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Survivin is an apoptosis inhibitor and plays an important role in the development and progression of cancer. Polymorphisms in the survivin gene may influence survivin production or activity, thereby modulating susceptibility to lung cancer. To test this hypothesis, we screened for...